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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,081	03/26/2001	Shawn R. Gettemy	PALM-3628.US.P	9783

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EXAMINER	
NGUYEN, KEVIN M	

ART UNIT	PAPER NUMBER
2674	6

DATE MAILED: 01/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/818,081	GETTEMY ET AL.	
	Examiner	Art Unit	
	Kevin M. Nguyen	2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2003*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The request for reconsideration filed on 10/24/2003 has been fully considered but they are not persuasive. The rejections of claims 1-24 are maintained.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 14-15 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Yokota et al (US 6,181,313).

As to claim 1, Yokota et al teach a display unit 1 comprising a passive matrix of pixels n rows and m columns of discrete pixels, a common driver 16, a segment driver 14, a display data memory 7 (figure 1), the drive duty (duty ratio) selection register 34 controlling producing a display on the central 2 rows on the screen, the shifting operation is started from F/F9 and is ended at F/F24; the flip flops F/F1 to F/F9 and F/F25 to F/F32 are reset at all times, and are not shifted (see figure 9, column 9, lines 49-53) which are controlled between on and off state by a common threshold signal by subtracting the potential of the segment signal from the potential of the common signal (see figures 14K and 14L, column 14, lines 43-50).

As to claim 13, Yokota et al teach a display unit 1 comprising a passive matrix of pixels n rows and m columns of discrete pixels, a common driver 16, a segment driver 14, a display data memory 7 (figure 1), the drive duty (duty ratio) selection register 34 controlling producing a display on the central 2 rows on the screen, the shifting operation is started from F/F9 and is ended at F/F24; the flip flops F/F1 to F/F9 and F/F25 to F/F32 are reset at all times, and are not shifted (see figure 9, column 9, lines 49-53) which are controlled between on and off state by a common threshold signal by subtracting the potential of the segment signal from the potential of the common signal (see figures 14K and 14L, column 14, lines 43-50).

As to claim 19, Yokota et al teach a portable electronic device (figure 18) comprising a processor 3, a memory unit 7 (figure 1), a user input device (figure 15), a display unit 1, a passive matrix of pixels n rows and m columns of discrete pixels, a common driver 16, a segment driver 14, a display data memory 7 (figure 1), the drive duty (duty ratio) selection register 34 controlling producing a display on the central 2 rows on the screen, the shifting operation is started from F/F9 and is ended at F/F24; the flip flops F/F1 to F/F9 and F/F25 to F/F32 are reset at all times, and are not shifted (see figure 9, column 9, lines 49-53) which are controlled between on and off state by a common threshold signal by subtracting the potential of the segment signal from the potential of the common signal (see figures 14K and 14L, column 14, lines 43-50).

As to claims 2 and 20, Yokota et al teach a contrast adjust circuit 39 (figure 14A, column 13, line 55).

As to claims 3, 14 and 21, Yokota et al teach the drive duty (duty ratio) selection register 34 controlling producing a display on the central 2 rows on the screen, the shifting operation is started from F/F9 and is ended at F/F24; the flip flops F/F1 to F/F9 and F/F25 to F/F32 are reset at all times, and are not shifted (see figure 9, column 9, lines 49-53) which are controlled on state be white to match the background (see figures 14K and 14L, column 14, lines 43-50).

As to claims 4, 5, 15 and 22, Yokota et al teach a passive matrix is negative mode liquid crystal display 1 technology (column 16, line 9).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al in view of Morimoto (US 6,535,188).

As to claim 6, Yokota et al teach all of the claimed limitation of claim 1, except for "the passive matrix is electronic ink technology. However, Morimoto teaches a liquid crystal display device including electronic ink 12 (figure 2, column 5, lines 19-20). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the electric ink technology taught by Morimoto in Yokota et al's display device because this would reduce the thickness fluctuation of liquid crystal layer

and avoid an occurrence of a portion of a display image deterioration such as a deviation of contrast ratio (column 3, lines 25-28 of Morimoto).

As to claims 9 and 10, Morimoto teaches each pixel including red, green, blue subpixel sharing a common row and spanning three columns (see figure 1).

5. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al in view of Maher (US 5,559,529).

As to claims 11 and 17, Yokota et al teach all of the claimed limitation of claims 1 and 13 except for "the predetermined width is two pixels." However, Maher teaches a pixel 404 having a width 2 W (see figure 4). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the pixel 404 having a width 2 W taught by Maher in Yokota et al's display device because this would provide a discrete media display having an improved line quality (column 2, lines 6-7 of Maher).

6. Claims 12, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al in view of Flack et al (US 6,288,704).

As to claims 12, 18 and 24, Yokota et al teach all of the claimed limitation of claims 1, 13 and 19, except for "said passive matrix comprises 160 rows and 160 columns of discrete pixels." However, Flack et al review that a PDA 20 comprising the display area 28 containing an array of 160 pixels by 160 pixels (see figure 2, column 2, lines 20-29). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the PDA 20 comprising the display area 28 containing an array of 160 pixels by 160 pixels taught by Flack et al in Yokota et al's display device because this would allow a user to navigate such an object in an easy and intuitive way,

a user can navigate from one slice of the image to the next easily using only one hand (see column 8, lines 55-59 of Flack et al).

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al in view of Colgan et al (US 6,323,834).

As to claim 7, Yokota et al teach all of the claimed limitation of claim 1, except for the passive matrix is microelectromechanical system technology. However, Colgan et al teach the passive matrix display 154, deformable mirrors 133 (figure 22, column 12, lines 23-26). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the passive matrix display 154, deformable mirrors 133 taught by Colgan et al in Yokota et al's display device because this would provide high reflectivity and good contrast ration while reducing manufacturing costs (column 7, lines 52 and line 63 of Colgan et al).

8. Claims 8, 16 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al in view of Lin et al (US 6,064,359).

As to claims 8, 16 and 23, Yokota et al teach all of the claimed limitation of claims 1, 13 and 19, except for a driver circuit 18 responsive to a single control signal for generating said common threshold signal. However, Lin et al teach a pixel out generator 56 (a driver circuit), a signal control signal (Di,j), a common threshold signal Pout (see figures 2A and 2B). It would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the threshold unit 58, a comparator 54, and pixel out generator 56 taught by Lin et al for Yokota et al's circuit 12 and 13 because

this would improve system for frame rate modulating an LCD device to reduce flicker and visual artifacts (column 2, lines 35-37 of Lin et al).

Response to Arguments

9. Applicant's arguments filed 10/24/2003 have been fully considered but they are not persuasive.

In response to applicant's argument that claims 1, 13 and 19 recite "pixel border surrounding said passive matrix and comprising a plurality of pixels which are uniformly controlled between an on and off state by a common threshold signal." This argument is not persuasive because Yokota et al's invention teaches "a centering display instruction register (31) instructs the display which be selectively produced on the central portion of the display screen (passive matrix liquid crystal display) (figure 9, column 8, line 30-33). To produce a display on the central 2 rows on the screen, the shifting operation is started from F/F9 and is ended at F/F24. In this case, the flip-flops F/F1 t F/F9 and F/F25 to F/F32 are reset at all times, and are not shifted (pixel border surrounding the central display screen which are control an on and off state). To produce a display on the central 1 two on the screen, the shifting operation is started with F/F9 and is ended at F/F16. At this moment, the flip-flops F/F1 to F/F8 and F/F17 to F/F32 are reset at all times, and are not shifted (pixel border surrounding the central display screen which are control an on and off state) (column 9, lines 49-56) which are controlled between on and off state by a common threshold signal by subtracting the potential of the segment signal from the potential of the common signal (see figures 14K and 14L, column 14, lines 43-50)."

For these reasons, the rejections based on Yokota et al have been maintained.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kevin M. Nguyen** whose telephone number is **703-305-6209**. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Kevin M. Nguyen
Patent Examiner
Art Unit 2674

KN
December 30, 2003

RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600